What is claimed is:

1   1.   A storage device comprising:

2   a probe having plural tips; and

3   a storage medium having a surface in which storage cells are to be formed,

4   the plural tips of the probe to form plural perturbations in the surface in at least one of

5   the storage cells for representing a data bit.

1   2.   The storage device of claim 1, wherein the plural perturbations are redundant

2   perturbations for representing the data bit.

1   3.   The storage device of claim 1, wherein the probe comprises a cantilever with the tips

2   attached to and extending outwardly from the cantilever.

1   4.   The storage device of claim 1, wherein the probe is adapted to scan the perturbations

2   of the at least one storage cell with at least one of the tips to detect a state of the data bit as

3   being either a logical "0" or logical "1."

1   5.   The storage device of claim 4, wherein presence of at least one perturbation in a

2   storage cell represents a first state of the data bit, and absence of perturbations in a storage

3   cell represents a second state of the data bit, the storage device further comprising a detector

4   to indicate that the at least one storage cell contains a data bit at the first state in response to

5   the probe detecting at least one of the redundant perturbations.

1   6.   The storage device of claim 1, further comprising a second probe, the second probe

2   having plural tips to form plural perturbations in the surface in another storage cell to

3   represent a second data bit.

1   7.   The storage device of claim 1, wherein the probe is part of an array of probes, each

2   probe in the array of probes having plural tips.

1 8.   The storage device of claim 1, further comprising:

2   a substrate in which the probe is formed; and

3   an actuator to move at least one of the substrate and the storage medium to adjust

4 relative positions of the substrate and the storage medium.

1 9.   The storage device of claim 8, wherein the probe is adapted to form plural groups of

2 redundant perturbations on the surface of the storage medium to write plural data bits in

3 respective storage cells, and the actuator is adapted to scan the probe over the plural groups

4 of perturbations to read the data bits.

1 10.   The storage device of claim 1, wherein the tips of the probe are in contact with the

2 surface of the storage medium to form the perturbations.

1 11.   The storage device of claim 10, wherein the tips of the probe are heated to form dents

2 in the surface, the perturbations comprising the dents.

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1 12.   The storage device of claim 9, wherein fewer than all of the tips of the probe are in

2 contact with the surface of the storage medium to perform a read.

1 13.   The storage device of claim 11, wherein the probe comprises a cantilever to which the

2 tips are attached, the cantilever being actuated to a slanted position to engage the fewer than

3 all of the plural tips of the probe to contact the surface of the storage medium.

1 14.   A system comprising:

2   a processor; and

3   a storage device coupled to the processor and comprising:

4   a probe having plural tips; and

5   a storage medium having a surface in which storage cells are to be formed,

6 each storage cell to store one data bit;

7   the plural tips of the probe to form at least two perturbations in the surface in

8 at least one of the storage cells for representing a data bit.

1 15. The system of claim 14, wherein the probe comprises a cantilever with the tips.

1 16. The system of claim 14, wherein the probe is adapted to read the redundant

2 perturbations of the at least one storage cell with at least one of the tips to detect a state of the

3 data bit.

1 17. The system of claim 14, wherein the probe is part of an array of probes, each probe in

2 the array of probes having plural tips, the storage medium and the array of probes being

3 moveable with respect to each other to read the storage cells.

1 18. The system of claim 14, wherein the probe is adapted to form plural groups of

2 redundant perturbations on the surface of the storage medium to write plural data bits in

3 respective storage cells, and the actuator is adapted to move the storage medium and the

4 probe with respect to each other to enable the probe to read data bits.

1 19. A method of storing data in a storage device, comprising:

2 providing a probe having plural tips;

3 providing a storage medium having a surface to provide storage cells each to store a

4 data bit; and

5 forming at least two perturbations in the surface in at least one of the storage cells for

6 representing a data bit.

1 20. The method of claim 19, further comprising providing additional probes each having

2 plural tips to form redundant perturbations in respective storage cells.

1 21. The method of claim 19, further comprising providing an actuator to actuate a

2 cantilever of the probe between a first position in which the plural tips are contacted to the

3 surface, and a second position in which less than all of the plural tips is contacted to the

4 surface.